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Z.331

MAN-MACHINE LANGUAGE

INTRODUCTION TO THE SPECIFICATION OF THE MAN-MACHINE INTERFACE

ITU-T Recommendation Z.331

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation Z.331 was published in Fascicle X.7 of the *Blue Book*. This file is an extract from the *Blue Book*. While the presentation and layout of the text might be slightly different from the *Blue Book* version, the contents of the file are identical to the *Blue Book* version and copyright conditions remain unchanged (see below).

2 In this Recommendation, the expression “Administration” is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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INTRODUCTION TO THE SPECIFICATION OF THE MAN-MACHINE INTERFACE

1 Scope of the Section

The man-machine interface comprises the set of inputs, outputs and special actions, together with the man-machine interaction mechanisms, including dialogue procedures. Those elements are combined to manipulate the varied telecommunications functions which cover the management of SPC telecommunications systems. Consideration of these functions has been an essential prerequisite for the development of the CCITT MML Recommendations.

As stated in Recommendation Z.301, the CCITT MML can be used to facilitate operation, maintenance, installation, and acceptance testing of SPC systems. With the tendency of Administrations to centralize operations and maintenance jobs, many of the SPC systems functions may be controlled at terminals associated with operation and maintenance systems as well as at terminals associated with SPC systems. These terminals can be either local or remote relative to the system.

In order to help Administrations aiming to achieve uniformity among various systems, the MML Recommendations include not only the syntax of the language and dialogue procedures, but also the semantics relevant to the man-machine interface. Section 4 provides the means for deriving such semantics.

2 Organization of Section 4

Section 4 consists of the following Recommendations:

Z.331	Introduction to the specification of the man-machine interface
Z.332	Methodology for the specification of the man-machine interface – General working procedure
Z.333	Methodology for the specification of the man-machine interface – Tools and methods.
Z.334	Subscriber administration
Z.335	Routing administration
Z.336	Traffic measurement administration
Z.337	Network management administration

Recommendation Z.331 lists the operation, maintenance, installation and acceptance testing functions to be controlled by means of the MML.

Recommendation Z.332 presents the first part, the general working procedure of a methodology by which the man-machine interface can be generated for a particular functional area or subarea.

Recommendation Z.333 presents the second part, the tools and methods, of a methodology by which the man-machine interface can be generated for a particular functional area or subarea.

Recommendations Z.334 to Z.337 are based on the applications of phases 1, 2 and 3 of the methodology defined in Z.332 and Z.333 for the subscriber administration, routing administration, traffic measurement administration and the network management administration.

The main part of each Recommendation contains the model of the functional area or sub-area. Annex A of each Recommendation contains the list of functions to be controlled by means of the MML and the list of jobs considered in the development of the model. Annex B of each Recommendation contains a list of MML functions and associated information structure diagrams to be used as guidelines.

3 Functions to be controlled by means of the MML

The functions to be controlled by means of the MML are subdivided into four main areas: operation, maintenance, installation and acceptance testing. They are listed below. Based on the relationships existing among them, in each main area functions are grouped into functional areas and sometimes functional sub-areas. Due to the potentially different organization needs and system design philosophies, it is recognized that not all functions apply to every system.

The list of functions is not complete and it is expected to continue to evolve.

In particular, the issuing of Recommendations on specific areas or sub-areas will lead to the refinement of the preliminary list identified in this Recommendation for those functional areas or sub-areas. So far, this refinement has been achieved for subscriber administrations, traffic measurement administration, routing administration, network management administration (partially) specified in Recommendations from Z.334 to Z.337.

3.1 *Operation functions*

3.1.1 *Subscriber administration¹⁾* (see Recommendation Z.334)

- administering subscriber lines related data;
- tracing malicious calls;
- retrieving subscriber charging information;
- observing subscriber charging.

3.1.2 *Routing and digit analysis administration*

3.1.2.1 *Routing administration* (see Recommendation Z.335)

- managing the routing data base;
- querying the routing data base.

3.1.2.2 *Digit analysis administration*

- managing the digit analysis data;
- querying the digit analysis data base.

3.1.3 *Traffic administration*

3.1.3.1 *Traffic measurements administration* (see Recommendations E.502 and Z.336)

- performing traffic measurements;
- scheduling the execution of traffic measurements and the output of results;
- managing measurements data;
- retrieving measurements data.

3.1.3.2 *Traffic analysis administration* (see Recommendation E.502)

- inputting measured data;
- inputting the identification and capacity information of the measurement object;
- managing traffic data records;
- managing the output of reports;
- managing analysis description data;
- supervising the control of the time-delay of the various analysis operations.

3.1.4 *Tariff and charging administration*

- changing the tariff for a certain traffic destination;
- changing parameters for a charging rate;
- changing time for switching between day and night rate;
- reading accounting statistics (accounting between operating companies);
- changing the parameters involved in the accounting methods for traffic between different operating companies;
- retrieving of charging information.

¹⁾ Subscriber administration deals with both single-line and multi-line subscribers.